

AMENDMENTS TO THE CLAIMS:

This listing of claims below replaces all prior listings of claims in the application.

1– 8. (Cancelled).

9. (Currently Amended) A lighting system, comprising:
two or more LEDs configured to produce at least two different spectra of radiation;
a processor including a memory;
a controller configured to control power delivered to at least one of the two or more LEDs, the controller being responsive to at least one signal communicated to the controller from the processor;
a light-transmissive material, wherein the two or more LEDs are arranged such that at least some of the radiation passes through the light-transmissive material and exits as variable color radiation; and
a user interface coupled to the processor,
wherein:
the user interface supplies a user interface signal to the processor, the user interface signal including at least one of a logic high signal and a logic low signal; and
the processor selects a program from the memory upon receipt of the user interface signal, wherein the program, when executed by the processor, controls at least a color of the variable color radiation.

10– 12. (Cancelled).

13. (Previously Presented) The lighting system of claim 9, wherein the processor adjusts a parameter of the program upon receipt of the user interface signal.

14. (Currently Amended) ~~The~~ A lighting system ~~of claim 9~~ comprising:

two or more LEDs configured to produce at least two different spectra of radiation;
a processor including a memory;
a controller configured to control power delivered to at least one of the two or more LEDs, the controller being responsive to at least one signal communicated to the controller from the processor;
a light-transmissive material, wherein the two or more LEDs are arranged such that at least some of the radiation passes through the light-transmissive material; and
a user interface coupled to the processor,
wherein:
the user interface supplies a user interface signal to the processor, the user interface signal including at least one of a logic high signal and a logic low signal; and
the processor selects a program from the memory upon receipt of the user interface signal, wherein the processor further comprises a timer configured to measure a duration of the user interface signal, and wherein the processor adjusts a parameter of the program upon receipt of a predetermined duration of the user interface signal.

15. (Previously Presented) The lighting system of claim 14, wherein the parameter continues to change until the user interface signal changes.

16. (Previously Presented) The lighting system of claim 9, further comprising a housing wherein the two or more LEDs, the processor, the memory, and the controller are substantially enclosed by the housing, and wherein the user interface and the light-transmissive material are integrated with the housing.

17. (Previously Presented) The lighting system of claim 9, further comprising:
a first housing configured to substantially enclose the processor, the memory, and the controller; and

a second housing configured to substantially enclose the at least two LEDs, wherein the light-transmissive material is integrated with the second housing.

18. (Previously Presented) The lighting system of claim 9, wherein the light-transmissive material comprises at least one of a semitransparent material, a translucent material, a semitransparent material and a transparent material.

19. (Previously Presented) The lighting system of claim 9, wherein the controller comprises at least one of a pulse width modulator, a pulse amplitude modulator, a pulse displacement modulator, a resistor ladder, a current source, a voltage source, a voltage ladder, a switch, a transistor, and a voltage controller.

20. (Previously Presented) The lighting system of claim 9, wherein the user interface comprises an encoder configured to provide an encoder signal as the user interface signal, and wherein the processor changes at least one of a the program and a parameter of the program upon receipt of the encoder signal.

21. (Previously Presented) The lighting system of claim 20, wherein the user interface further comprises at least one of a dial, a button, a switch, a slider, a variable switch, and a variable selector.

22. (Previously Presented) The lighting system of claim 9 or 13, wherein the user interface further comprises at least one of a button, a switch, a slider, a variable switch, and a variable selector.

23. (Previously Presented) The lighting system of claim 9, further comprising an analog to digital converter, wherein the user interface generates an analog signal and the analog to digital

converter converts the analog signal to a digital signal, and wherein the digital signal is communicated to the processor.

24. (Previously Presented) The lighting system of claim 23, wherein the processor selects the program from the memory upon receipt of the digital signal.

25. (Previously Presented) The lighting system of claim 23, wherein the processor adjusts a parameter of the program upon receipt of the digital signal.

26 – 42. (Cancelled).

43. (Previously Presented) The lighting system of claim 9, further comprising a display coupled to the processor.

44. (Previously Presented) The lighting system of claim 43, wherein the display is at least one of an LCD screen, a plasma screen, a monochrome screen, and a color screen.

45. (Previously Presented) The lighting system of claim 44, wherein the display is configured to provide information regarding at least one of the selected program, a program setting, a program parameter, available programs stored in the memory, a time, a date, and control information.

46– 49. (Cancelled).

50. (Currently Amended) The lighting system of claim 9, wherein the user interface is remotely located from the processor.

51. (Previously Presented) The lighting system of claim 50, wherein communication of the user interface signal from the user interface to the processor is accomplished through at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a wire transmission, a cable transmission, and a network transmission.

52– 71. (Cancelled).

72. (Previously Presented) The lighting system of claim 9, wherein the processor is at least one of a controller, an addressable controller, a microprocessor, a microcontroller, an addressable microprocessor, a computer, a programmable processor, a programmable controller, a dedicated processor, a dedicated controller, and an integrated circuit.

73. (Previously Presented) The lighting system of claim 72, further comprising a receiver for receiving at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a network transmission, a wire transmission, and a cable transmission, wherein the receiver is coupled to the processor.

74. (Previously Presented) The lighting system of claim 72, further comprising:
an analog to digital converter configured to communicate a digital signal to the processor;
and
a receiver for receiving at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a network transmission, a wire transmission, and a cable transmission, wherein the receiver communicates an analog signal to the analog to digital converter.

PATENTS

Serial no.: 09/805,368

Confirmation No.: 1552

Attorney Docket No. CKB-015.01

75. (Cancelled).

76. (Currently Amended) ~~A digital light engine, comprising:~~
~~at least one LED; a processor having an external power signal input connection;~~
~~at least one controller coupled to the processor and configured to control power delivered~~
~~to the at least one LED the at least one controller being responsive to~~ The system of claim 9,
wherein the user interface signal represents at least one power cycle applied to the lighting
system external power signal input connection; and
a housing that encloses at least the processor and the controller.

77-80. (Cancelled).

81. (Currently Amended) ~~The digital light engine~~ lighting system of claim ~~79~~ 76, wherein the
at least one power cycle includes turning power to the ~~digital light engine~~ lighting system off and
then back on within a predetermined period of time via the user interface.

82– 92. (Cancelled).

93. (Previously Presented) A lighting system, comprising:
two or more LEDs configured to produce at least two different spectra of radiation;
a processor;
a controller configured to control power delivered to at least one of the two or more
LEDs, the controller being responsive to at least one signal communicated to the controller from
the processor;
a light-transmissive material, wherein the two or more LEDs are arranged such that at
least some of the radiation passes through the light-transmissive material;

an analog to digital converter configured to communicate a digital signal to the processor;
and

a receiver for receiving at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a network transmission, a wire transmission, and a cable transmission, wherein the receiver communicates an analog signal to the analog to digital converter.

94. (Previously Presented) The lighting system of claim 93, further comprising a remote user interface configured to communicate a user interface signal to the receiver via the at least one of the electromagnetic transmission, the radio frequency transmission, the infrared transmission, the microwave transmission, the acoustic transmission, the network transmission, the wire transmission, and the cable transmission.

95. (Previously Presented) The lighting system of claim 94, wherein the processor is configured to control the controller so as to change at least one parameter of the radiation in response to the user interface signal.

96. (Previously Presented) The lighting system of claim 95, wherein the processor includes a memory, and wherein the processor is configured to select one program of a plurality of programs from the memory in response to the user interface signal.

97. (Previously Presented) The lighting system of claim 96, wherein the processor is configured to adjust a parameter of the selected one program in response to the user interface signal.

98. (Previously Presented) The lighting system of claim 96, wherein the processor further comprises a timer configured to measure a duration of the digital signal representing the user

interface signal, and wherein the processor adjusts a parameter of the selected one program upon receipt of a predetermined duration of the digital signal.

99. (Currently Amended) ~~An apparatus, comprising:~~
~~at least two LEDs configured to generate at least two different spectra of radiation that~~
~~are combined to produce at least one perceivable color of light; and~~
~~at least one controller configured to control at least one parameter of the radiation~~
~~generated by the at least two LEDs based at least in part on at least one lighting control signal~~
~~received by the apparatus~~ The lighting system of claim 9, wherein
the processor receives the user interface signal over at least one wireless communication link.

100. (Currently Amended) The ~~apparatus~~ lighting system of claim 99, wherein the at least one wireless communication link is configured to support at least one of a radio frequency transmission, an infrared transmission, a microwave transmission, and an acoustic transmission.

101. (Currently Amended) The ~~apparatus~~ lighting system of claim 100, wherein the at least one wireless communication link is configured to support at least one radio frequency transmission, and wherein the apparatus further comprises a radio transceiver coupled to the ~~at least one controller~~ processor to receive the user interface ~~at least one lighting control~~ signal.

102. (Currently Amended) The ~~apparatus~~ lighting system of claim ~~100~~ 99, wherein the ~~at least one controller~~ is configured vary the ~~at least one perceivable color of light~~ variable color radiation based at least in part on the ~~at least one lighting control~~ user interface signal.

103. (Currently Amended) The ~~apparatus~~ lighting system of claim ~~100~~ 99, wherein the processor ~~at least one controller~~ is an addressable processor ~~controller~~, wherein the at least one

wireless communication link forms part of a wireless communication network, and wherein the ~~at least one lighting control~~ user interface signal includes information particularly identifying the addressable processor apparatus.

104. (Currently Amended) The ~~apparatus~~ lighting system of claim ~~100 99~~, ~~further comprising a memory storing at least one lighting program~~, wherein the processor apparatus is further configured to modify at least one variable of the selected ~~at least one lighting~~ program based on the ~~at least one lighting control~~ user interface signal, and wherein the ~~at least one controller is configured to control the at least one parameter of the radiation generated by the at least two LEDs based at least in part on execution of the at least one lighting program~~.

105. (Currently Amended) The ~~apparatus~~ lighting system of claim ~~100 9~~, ~~wherein the further comprising a memory stores storing~~ a plurality of lighting programs, wherein the processor apparatus is configured to select one lighting program of the plurality of lighting programs based on the ~~at least one lighting control~~ user interface signal, and wherein the ~~at least one controller is configured to control the at least one variable color radiation parameter of the radiation generated by the at least two LEDs based at least in part on execution by the processor of the selected one lighting program~~.

106. (Currently Amended) The ~~apparatus~~ lighting system of claim 105, wherein the processor apparatus is further configured to modify at least one variable of the selected one lighting program based on the ~~at least one lighting control~~ user interface signal.

107-108. (Cancelled).

109. (Currently Amended) A lighting method, comprising acts of:

A) producing at least two different spectra of radiation from two or more LEDs;

B) controlling power delivered to at least one of the two or more LEDs in response to at least one signal communicated from a processor;

C) passing at least some of the radiation through a light-transmissive material to provide variable color radiation;

D) selecting a program from a memory of the processor upon receipt of a user interface signal that includes at least one of a logic high signal and a logic low signal; and

E) executing the program to generate the at least one signal communicated by the processor so as to control at least a color of the variable color radiation.

110. (Previously Presented) The lighting method of claim 109, further comprising an act of adjusting a parameter of the program upon receipt of the user interface signal.

111. (Currently Amended) ~~The A~~ lighting method of ~~claim 109, further~~, comprising acts of:

A) producing at least two different spectra of radiation from two or more LEDs;

B) controlling power delivered to at least one of the two or more LEDs in response to at least one signal communicated from a processor;

C) passing at least some of the radiation through a light-transmissive material;

D) selecting a program from a memory of the processor upon receipt of a user interface signal that includes at least one of a logic high signal and a logic low signal;

E) measuring a duration of the user interface signal; and

F) adjusting a parameter of the program upon receipt of a predetermined duration of the user interface signal.

112. (Currently Amended) The lighting method of claim 109, further comprising an act of ~~continuing to change~~ continually changing a parameter of the program until the user interface signal changes.

PATENTS

Serial no.: 09/805,368

Confirmation No.: 1552

Attorney Docket No. CKB-015.01

113. (Previously Presented) The lighting method of claim 109, wherein the act B) comprises an act of controlling the power delivered to the at least one of the two LEDs via at least one of a pulse width modulation technique, a pulse amplitude modulation technique, a pulse displacement modulation technique, a resistor ladder, a current source, a voltage source, a voltage ladder, a switch, a transistor, and a voltage controller.

114. (Previously Presented) The lighting method of claim 109, further comprising an act of displaying information regarding at least one of the selected program, a program setting, a program parameter, available programs stored in the memory, a time, a date, and control information.

115. (Previously Presented) The lighting method of claim 109, further comprising an act communicating the user interface signal from the user interface to the processor via at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a wire transmission, a cable transmission, and a network transmission.

116. (Currently Amended) ~~A digital~~ The lighting method of claim 109, wherein the user interface signal represents, comprising acts of:

~~generating radiation from at least one LED; and~~

~~controlling power delivered to the at least one LED in response to at least one power cycle applied to an external power signal input connection of a~~ the processor.

117-119. (Cancelled).

120. (Currently Amended) The ~~digital~~ lighting method of claim 116, further comprising an act of turning an operating power off and then back on within a predetermined period of time so as to generate the at least one power cycle.

121. (Previously Presented) A lighting method, comprising acts of:
producing at least two different spectra of radiation from two or more LEDs;
controlling power delivered to at least one of the two or more LEDs in response to at least one signal communicated from a processor;
passing at least some of the radiation through a light-transmissive material;
generating an analog signal in response to receiving at least one of an electromagnetic transmission, a radio frequency transmission, an infrared transmission, a microwave transmission, an acoustic transmission, a network transmission, a wire transmission, and a cable transmission;
converting the analog signal into a digital signal; and
communicating the digital signal to the processor.

122. (Currently Amended) ~~[A] The lighting method of claim 109, comprising acts of:~~
~~A) generating at least two different spectra of radiation from at least two LEDs and combining the radiation to produce at least one perceivable color of light; and~~
wherein the act D) comprises
~~B) controlling at least one parameter of the radiation generated by the at least two LEDs based at least in part on at least one lighting control~~ communicating the user interface signal received to the processor over at least one wireless communication link.

123. (Previously Presented) The method of claim 122, wherein the at least one wireless communication link is configured to support at least one of a radio frequency transmission, an infrared transmission, a microwave transmission, and an acoustic transmission.

124. (Currently Amended) The method of claim 123, wherein the at least one wireless communication link is configured to support at least one radio frequency transmission, and wherein the method further comprises an act of:

~~C)~~ receiving the ~~at least one lighting control~~ user interface signal via the at least one radio frequency transmission.

125. (Currently Amended) The method of claim ~~123~~ 122, wherein the act ~~B)~~ E) includes an act of:

varying the ~~at least one perceivable color of light~~ color of the variable color radiation based at least in part on the ~~at least one lighting control~~ user interface signal.

126-127. (Cancelled).

128. (Currently Amended) The method of claim ~~127~~ 122, ~~wherein the act B)~~ further ~~includes~~ including an act of:

~~B2)~~ modifying at least one variable of the ~~at least one lighting~~ selected program based on the ~~at least one lighting control~~ user interface signal.

129. (Currently Amended) The method of claim ~~127~~ 109, wherein the ~~at least one lighting~~ program includes a plurality of ~~lighting~~ programs, and wherein the act ~~B)~~ D) further includes an act of:

~~B2)~~ selecting one ~~lighting~~ program of the plurality of ~~lighting~~ programs, based on the ~~at least one lighting control~~ user interface signal, for execution in the act ~~B1)~~ E).

130. (Currently Amended) The method of claim 129, ~~wherein the act B)~~ further ~~includes~~ including an act of:

PATENTS

Serial no.: 09/805,368

Confirmation No.: 1552

Attorney Docket No. CKB-015.01

~~B3)~~ modifying at least one variable of the selected one ~~lighting~~ program based on the at least one ~~lighting control~~ user interface signal.

131. (Currently Amended) The method of claim ~~123~~ 122, further comprising an act of:

~~C)~~ generating the ~~at least one lighting control~~ user interface signal based on user operation of at least one remote user interface coupled to the at least one wireless communication link.

132. (Previously Presented) The method of claim 131, wherein the at least one remote user interface comprises at least one of dial, a button, a switch, a slider, a variable switch, and a variable selector.